CONSULTATION ON ENHANCEMENTS TO THE MSCI ALL MARKET INDEXES METHODOLOGY

January 2018
MSCI opens a consultation on a proposal to enhance the selection rules of the MSCI All Market Indexes Methodology to prevent the inclusion of securities that are not required to meet the target number of constituents.

The proposed enhancements aim to potentially increase overall index investability while continuing to align with the central objective of representing the market equity universe while including a minimum number of constituents.

As part of the consultation, MSCI is also seeking feedback regarding specific aspects of the methodology such as:
- Lowering the target count of securities
- Eligibility review frequency
- Eligibility of FM securities to DM/EM All Market Indexes

MSCI welcomes feedback from the investment community on this consultation until February 28, 2018.

*Note that this consultation may or may not result in the implementation or adoption of any or all of the proposed changes contained in this document. In addition, consultation feedback will remain confidential. MSCI may publicly disclose feedback if specifically requested by specific market participants. In that case, the relevant feedback would be published together with the final results of the consultation.*
The MSCI All Market Indexes are designed to represent the equity universe of markets while including a minimum number of constituents (i.e. 25 securities and 20 issuers).

In order to meet the minimum number of securities/issuers requirements, All Market indexes may cover securities not included in the respective MSCI Country Indexes:

- by expanding the universe to include securities outside of the market’s Country of Classification (COC) as defined by the MSCI Global Investable Market Indexes (GIMI)
- by including securities with lower investability requirements than GIMI
During Annual Index Reviews (AIRs), the MSCI All Market Indexes are rebalanced using the following rules:

- **Criteria 1:** Securities with COC = Country
- **Criteria 2:** Securities with: COC ≠ Country Headquarters/Listing = Country Significant Linkage = Country
- **Criteria 3:** Securities with: Economic Exposure (EE) > 10%

**Selection Steps**

1. The following are first added to the index:
   - MSCI ACWI IMI*
   - Top 15 of the Investable Equity Universe*
   - Existing constituents in the Investable Universe*

2. Other securities that are part of the Investable Universe (in order of decreasing float market cap)

3. Securities that are not part of the Investable Universe (in order of decreasing ATVR)*

4. Securities with more than 20% economic exposure (in order of decreasing float mcap)

5. Securities with more than 10% economic exposure (in order of economic exposure)

**Investable Universe:** Within the Eligible Universe, this uses higher values for each of the criteria used in the Eligible Universe.

Preference is first given to securities in the Investable Universe (i.e. Step 1 and 2)

**Eligible Universe:** Securities that meet the minimum thresholds on size, float, and liquidity

**MSCI ACWI IMI Securities added through Economic Exposure**

Note: The investability requirements and eligibility requirements can be found in the Appendix

* - portions of the methodology with proposed changes
MSCI IS PROPOSING THE FOLLOWING CHANGES TO THE SELECTION RULES OF THE MSCI ALL MARKET INDEXES

A. Prioritize MSCI Country IMI Securities to prevent the addition of securities not required to meet the target number

B. Remove the prioritization of the Top 15 securities by Float Market Capitalization to prevent the addition of securities not required to meet the target number

C. Prioritize existing constituents among eligible securities not part of the investable universe to prevent the unnecessary replacement of existing constituents

D. Lower the priority of current constituents selected on the basis of economic exposure to prevent the maintenance of such securities not required to meet the target number

MSCI invites feedback from market participants on or before February 28, 2018. Note that this consultation may or may not lead to the implementation of any or all of the proposed changes in the MSCI All Market Indexes.
A. Change priority universe from an ACWI IMI to a Country IMI

**Rationale**
- To better align with the objective of including securities not part of the Country IMI only if the target securities/issuer count is not met

**Current Rule**
- ACWI IMI securities in the Broad Country Equity Universe (except securities added through Economic Exposure) are prioritized to be added regardless of the security count

**Benefits**
- ACWI IMI securities outside of the Country IMI will not be added unless they are required to meet the minimum security/issuer count
- Illustration: A non-Pakistani IMI security (e.g. USA IMI) headquartered in Pakistan and has majority of operations in Pakistan would be added to the MSCI All Pakistan Index only if the number of constituents is less than the required minimum
PROPOSED CHANGES TO SELECTION RULES (2/4)

**PROPOSAL**

B. Remove priority of securities ranked in the top 15 by Float Market Cap

**Rationale**
- To avoid inclusion of new non-Country IMI securities that are not required to meet the target security/issuer count

**Current Rule**
- Investable securities in the Broad Country Equity Universe (excluding Economic Exposure securities) that are ranked among the Top 15 by free float-adjusted market capitalization are added regardless of security/issuer count

**Actual Historical Case**
- This proposed change would have removed the need for the exceptional treatment applied to the All Pakistan Index during the Nov 2017 AIR
- United Energy Group, a HK-listed security classified in Pakistan (i.e. not eligible under GIMI), was ranked among the Top 15 by free float-adjusted market capitalization among investable securities in the All Pakistan Equity Universe
- **Under the current rules**, since the Top 15 securities are added regardless of the security/issuer count, even if the MSCI All Pakistan Index already had 45 constituents, United Energy Group would have had to be added to the index
- **Under the proposed rules**, United Energy Group would have been considered for addition only if the target security/issuer count was not met
C. Prioritize existing constituents among eligible securities not part of the Investable Universe over potential new constituents

**Rationale**
- To avoid unnecessary replacement of existing constituents

**Current Rules**
- After all investable securities are added, eligible securities that are not part of the investable universe are added based on 3M ATVR
- There is no priority for current constituents over non-constituents

**Actual Historical Case**
- **Nov 2016 AIR**: Enel Generacion Peru (3M ATVR: 1.3%) was a current constituent of the MSCI All Peru Index, while Scotiabank Peru (3M ATVR: 3.0%) was not. Both securities did not meet the investability requirements but met the eligibility requirements
- **Under the current rules**, Enel Generacion Peru was deleted from the MSCI All Peru Index and was replaced by Scotiabank Peru since the latter had higher 3M ATVR
- **Under the proposed rules**, Enel Generacion Peru would have been retained since non-investable current constituents are prioritized over non-investable non-constituents. Scotiabank Peru would not have been added
D. Assign lower the priority to current Economic Exposure securities

**PROPOSAL**

**Rationale**
- To prevent retaining existing constituents selected on the basis of Economic Exposure even if they are not required to meet target security/issuer count

**Current Rules**
- Index Construction Sequence: IMI -> Investable -> Eligible -> EE securities
- At subsequent Index Reviews, all current constituents are generally maintained regardless of count, including all EE securities
- *Selection Sequence*: (1) ACWI IMI + Top 15 Investable + Current Investable + **Current EE** -> (2) Non-current Investable -> (3)Current/ Non-current Eligible -> (4) Non-current EE

**Proposed Rules**
- Lowered priority of Current EE securities so that they will only be selected if needed to meet the target count
- *Selection Sequence*: (1) Country IMI + Current Investable -> (2) Non-Current Investable -> (3) Current Eligible -> (4) **Current EE** -> (5) Noncurrent Eligible -> (6) Noncurrent EE

**Actual Historical Case**
- **Nov 2017 AIR**: Irsa Propiedades Adr which is classified in Argentina was not added to the MSCI All Argentina Index even if it was investable, as six current EE securities (e.g. Pan American Silver Corp with 19% EE) were prioritized over it
SUMMARY OF SELECTION RULES ENHANCEMENTS

Current Selection Rules

- ACWI IMI + Current Investable + Current Economic Exposure + Top 15 Investable

Proposed Selection Rules

A. Country IMI + Current Investable

- New Investable

B. Current Eligible

C. Current Economic Exposure

- New Eligible

- New Economic Exposure

Rationale for Enhancements

(A) Change Priority Index from ACWI IMI to Country IMI

- To prevent unnecessary addition of securities and thus better align the All Market Indexes to its objective of including securities not part of Country IMI only if the target security/issuer count is not achieved

(B) Remove Priority of Top 15 Investable

(C) Prioritize Current over Noncurrent Eligible

- To prevent the unnecessary replacement of current constituents thereby minimizing turnover and reducing the chance of adding new securities that are not part of the investable universe

(D) Lower Priority of Current EE Securities

- To align with the objective of including EE securities only when the target security/issuer count is not achieved
① LOWER TARGET NUMBER OF SECURITIES AND ISSUERS
② FREQUENCY OF ELIGIBILITY REVIEWS
③ ELIGIBILITY OF FRONTIER MARKETS SECURITIES
LOWER TARGET NUMBER OF SECURITIES AND ISSUERS

• Should MSCI lower the target number of securities and/or issuers during Annual Index Reviews to be the same as the target for Quarterly Index Reviews (i.e. 23 securities and 18 issuers)?
  – While lowering the target number of securities during the Annual Index Review may potentially prevent the addition of less investable companies, this also increases the chance of going below the target in between index reviews as a result of corporate events.
FREQUENCY OF ELIGIBILITY REVIEWS

• To maintain the investability of the MSCI All Market Indexes between the Annual Index Reviews, should MSCI review whether current constituents of the MSCI All Market Indexes meet the minimum eligibility requirements as part of Quarterly Index Reviews (QIRs)?

  – If so, should MSCI use a lower buffer for QIRs than the eligibility requirements used for current constituents during Annual Index Reviews?

  – Should only free float and market capitalization requirements be reviewed during QIRs?

Current Eligibility Requirements for Existing Constituents

<table>
<thead>
<tr>
<th>Country</th>
<th>3M ATVR</th>
<th>12M ATVR</th>
<th>3M FOT</th>
<th>Full Mcap</th>
<th>FF Mcap</th>
<th>FIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ireland</td>
<td>1.0%</td>
<td>1.0%</td>
<td>10%</td>
<td>39.92</td>
<td>19.96</td>
<td>35.93</td>
</tr>
<tr>
<td>Portugal</td>
<td>1.0%</td>
<td>1.0%</td>
<td>10%</td>
<td>39.92</td>
<td>19.96</td>
<td>35.93</td>
</tr>
<tr>
<td>Colombia</td>
<td>1.0%</td>
<td>1.0%</td>
<td>10%</td>
<td>45.91</td>
<td>22.96</td>
<td>41.32</td>
</tr>
<tr>
<td>Greece</td>
<td>1.0%</td>
<td>1.0%</td>
<td>10%</td>
<td>37.69</td>
<td>18.85</td>
<td>33.92</td>
</tr>
<tr>
<td>Peru</td>
<td>1.0%</td>
<td>1.0%</td>
<td>10%</td>
<td>45.91</td>
<td>22.96</td>
<td>41.32</td>
</tr>
<tr>
<td>Qatar</td>
<td>1.0%</td>
<td>1.0%</td>
<td>10%</td>
<td>25.55</td>
<td>12.78</td>
<td>23.00</td>
</tr>
<tr>
<td>United Arab Emirates</td>
<td>1.0%</td>
<td>1.0%</td>
<td>10%</td>
<td>45.13</td>
<td>22.57</td>
<td>40.62</td>
</tr>
<tr>
<td>Pakistan</td>
<td>1.0%</td>
<td>1.0%</td>
<td>10%</td>
<td>32.40</td>
<td>16.20</td>
<td>29.16</td>
</tr>
<tr>
<td>Argentina</td>
<td>N/A</td>
<td>1.0%</td>
<td>10%</td>
<td>22.96</td>
<td>11.48</td>
<td>20.66</td>
</tr>
<tr>
<td>Nigeria</td>
<td>N/A</td>
<td>1.0%</td>
<td>10%</td>
<td>16.07</td>
<td>8.04</td>
<td>14.47</td>
</tr>
</tbody>
</table>

*Eligibility Requirements as of Nov 2017 AIR
Market capitalization is in mln USD
DISCUSSION POINTS FOR CONSULTATION

ELIGIBILITY OF FRONTIER MARKETS SECURITIES

• Given the generally lower accessibility of Frontier Markets (FM) compared to Developed and Emerging Markets, should securities classified in FM be eligible to the universe of a DM/EM All Market Index if they meet the necessary requirements for significant linkage or economic exposure?
  – Example: Should Argentina-classified securities with economic exposure greater than 10% to Peru be eligible to the MSCI All Peru Index?
APPENDIX
The MSCI All Market Indexes currently apply the following eligibility requirements:

<table>
<thead>
<tr>
<th>Country</th>
<th>Region</th>
<th>Eligibility Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ireland</td>
<td>IE</td>
<td>DM</td>
</tr>
<tr>
<td>Portugal</td>
<td>PT</td>
<td>DM</td>
</tr>
<tr>
<td>Colombia</td>
<td>CO</td>
<td>EM</td>
</tr>
<tr>
<td>Greece</td>
<td>GR</td>
<td>EM</td>
</tr>
<tr>
<td>Peru</td>
<td>PE</td>
<td>EM</td>
</tr>
<tr>
<td>Qatar</td>
<td>QA</td>
<td>EM</td>
</tr>
<tr>
<td>United Arab Emirates</td>
<td>AE</td>
<td>EM</td>
</tr>
<tr>
<td>Pakistan</td>
<td>PK</td>
<td>FM</td>
</tr>
<tr>
<td>Argentina</td>
<td>AR</td>
<td>FM</td>
</tr>
<tr>
<td>Nigeria</td>
<td>NG</td>
<td>FM</td>
</tr>
</tbody>
</table>

*Eligibility Requirements as of Nov 2017 AIR
Market capitalization is in mln USD*
• The MSCI All Market Indexes currently apply the following investability requirements:

<table>
<thead>
<tr>
<th>Country</th>
<th>Region</th>
<th>3M ATVR</th>
<th>12M ATVR</th>
<th>3M FOT</th>
<th>Full Mcap</th>
<th>FF Mcap</th>
<th>FIF</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>New</td>
<td>Existing</td>
<td>New</td>
<td>Existing</td>
<td>New</td>
<td>Existing</td>
</tr>
<tr>
<td>Ireland</td>
<td>IE</td>
<td>10.0%</td>
<td>2.5%</td>
<td>10.0%</td>
<td>2.5%</td>
<td>40%</td>
<td>20%</td>
</tr>
<tr>
<td>Portugal</td>
<td>PT</td>
<td>7.5%</td>
<td>2.5%</td>
<td>7.5%</td>
<td>2.5%</td>
<td>40%</td>
<td>20%</td>
</tr>
<tr>
<td>Colombia</td>
<td>CO</td>
<td>7.5%</td>
<td>2.5%</td>
<td>7.5%</td>
<td>2.5%</td>
<td>40%</td>
<td>20%</td>
</tr>
<tr>
<td>Greece</td>
<td>GR</td>
<td>7.5%</td>
<td>2.5%</td>
<td>7.5%</td>
<td>2.5%</td>
<td>40%</td>
<td>20%</td>
</tr>
<tr>
<td>Peru</td>
<td>PE</td>
<td>7.5%</td>
<td>2.5%</td>
<td>7.5%</td>
<td>2.5%</td>
<td>40%</td>
<td>20%</td>
</tr>
<tr>
<td>Qatar</td>
<td>QA</td>
<td>7.5%</td>
<td>2.5%</td>
<td>7.5%</td>
<td>2.5%</td>
<td>40%</td>
<td>20%</td>
</tr>
<tr>
<td>United Arab Emirates</td>
<td>AE</td>
<td>7.5%</td>
<td>2.5%</td>
<td>7.5%</td>
<td>2.5%</td>
<td>40%</td>
<td>20%</td>
</tr>
<tr>
<td>Pakistan</td>
<td>PK</td>
<td>7.5%</td>
<td>2.5%</td>
<td>7.5%</td>
<td>2.5%</td>
<td>40%</td>
<td>20%</td>
</tr>
<tr>
<td>Argentina</td>
<td>AR</td>
<td>0.0%</td>
<td>0.0%</td>
<td>2.5%</td>
<td>1.0%</td>
<td>25%</td>
<td>10%</td>
</tr>
<tr>
<td>Nigeria</td>
<td>NG</td>
<td>0.0%</td>
<td>0.0%</td>
<td>2.5%</td>
<td>1.0%</td>
<td>25%</td>
<td>10%</td>
</tr>
</tbody>
</table>

*Investability Requirements as of Nov 2017 AIR
Market capitalization is in mln USD
ALL MARKET SELECTION RULES - CURRENT

Level of Investability

IMI

Top 15 by Float Mcap

Investable

Eligible

Current Constituents

Non-Current Securities

Current EE Constituents

Non-Current EE Securities

1

1

1

4

Notes:
Step 1: Add all securities regardless of Security/Issuer Count
Step 2: Select by Float Mcap if below Target Count
Step 3: Select by 3M ATVR if below Target Count
Step 4: Select first by Float Mcap (EE above 20%) then by EE (EE above 10%) if below Target Count
ALL MARKET SELECTION RULES – PROPOSED

Notes:
Step 1: Add all securities regardless of Security/Issuer Count
Step 2: Select by Float Mcap if below Target Count
Steps 3 and 5: Select by 3M ATVR if below Target Count
Steps 4 and 6: Select first by Float Mcap (EE above 20%) then by EE (EE above 10%) if below Target Count
SIMULATED IMPACT OF LOWER TARGET COUNT: ALL COLOMBIA HISTORICAL SIMULATION

• **Impact:** Lower AIR turnover but higher QIR turnover
  – There could have been a lower turnover during the 2015 AIR due to 1 less security added and during the 2016 AIR due to 2 less securities added.
  – Turnover during the Sept 2016 QIR would have been higher due to 1 additional security added.

• **Impact:** Higher risk of falling below minimum
  – Group entity count would have fallen to 16 during the intra-quarter period from June to September 2016 (Current: 17)

<table>
<thead>
<tr>
<th>As of date</th>
<th>Turnover - Proposed</th>
<th>Turnover - Current</th>
<th>Difference</th>
<th>Proposed Adds/ Deletes</th>
<th>Current Adds/ Deletes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dec-15</td>
<td>0.20%</td>
<td>0.37%</td>
<td>0.16%</td>
<td>0 / 0</td>
<td>+1 / 0</td>
</tr>
<tr>
<td>Mar-16</td>
<td>0.17%</td>
<td>0.17%</td>
<td>0.00%</td>
<td>0 / -1</td>
<td>0 / -1</td>
</tr>
<tr>
<td>04/28/2016</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0 / -1</td>
<td>0 / -1</td>
</tr>
<tr>
<td>Jun-16</td>
<td>2.51%</td>
<td>2.51%</td>
<td>0.00%</td>
<td>0 / -1</td>
<td>0 / -1</td>
</tr>
<tr>
<td>06/10/2016</td>
<td>0.37%</td>
<td>0.37%</td>
<td>0.00%</td>
<td>0 / -1</td>
<td>0 / -1</td>
</tr>
<tr>
<td>Sep-16</td>
<td>1.35%</td>
<td>1.08%</td>
<td>-0.27%</td>
<td>+2 / 0</td>
<td>+1 / 0</td>
</tr>
<tr>
<td>Dec-16</td>
<td>0.12%</td>
<td>2.03%</td>
<td>1.91%</td>
<td>0 / 0</td>
<td>+2 / 0</td>
</tr>
<tr>
<td>Mar-17</td>
<td>0.01%</td>
<td>0.13%</td>
<td>0.12%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jun-17</td>
<td>1.42%</td>
<td>1.49%</td>
<td>0.07%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sep-17</td>
<td>0.71%</td>
<td>0.70%</td>
<td>0.00%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dec-17</td>
<td>1.07%</td>
<td>1.06%</td>
<td>-0.01%</td>
<td>+1 / -1</td>
<td>+1 / -1</td>
</tr>
</tbody>
</table>
FREQUENCY OF ELIGIBILITY REVIEWS (1/2)

CURRENT REVIEW FREQUENCY

- **Feb QIR**
  - Quarterly Index Reviews
    - Addition of new Country IMI
    - No deletions
    - Re-capping of EE securities to 1%
    - New securities (not Country IMI) are added only if count falls below QIR target

- **May QIR**

- **Aug QIR**

- **Nov AIR**
  - Annual Index Reviews
    - Update of Broad Country Equity Universe
    - Universe is screened for investability and eligibility requirements
    - All securities are selected based on selection criteria
FREQUENCY OF ELIGIBILITY REVIEWS (2/2)

- All Peru, All Nigeria, and All Pakistan have securities failing minimum eligibility requirements for existing constituents during QIRs in the past 2 years

<table>
<thead>
<tr>
<th>Index Review</th>
<th>Index</th>
<th>Security Name</th>
<th>Index weight</th>
<th>3M ATVR</th>
<th>12M ATVR</th>
<th>3M FOT</th>
<th>Float Mcap</th>
<th>FIF</th>
<th>3M ATVR (next qtr)</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feb 2016 QIR</td>
<td>All Peru</td>
<td>Edegel</td>
<td>1.82%</td>
<td>0.4%</td>
<td>1.9%</td>
<td>71.0%</td>
<td>351</td>
<td>0.2</td>
<td>1.7%</td>
<td>Failed  min 3M ATVR in Feb 2016 (0.4% vs 1%); No additional security needed: 25 security count, 24 GE count - Failed the minimum for new constituents in the next qtr (1.7% vs 2.5%) but passed the minimum for existing constituents (1.7% vs 1%) in the next qtr</td>
</tr>
<tr>
<td>May 2016 QIR</td>
<td>None</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Aug 2016 QIR</td>
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<td></td>
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<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Feb 2017 QIR</td>
<td>None</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>May 2017 QIR</td>
<td>All Nigeria</td>
<td>Julius Berger</td>
<td>0.71%</td>
<td>N/A</td>
<td>1.0%</td>
<td>91.8%</td>
<td>67</td>
<td>0.4</td>
<td>4.1%</td>
<td>Failed  min 12M ATVR (0.96% vs 1%); No additional security needed: 38 security count, 37 GE count - Passed the minimum for new and existing constituents (4.1% vs 1%) in the next qtr</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Nigeria</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aug 2017 QIR</td>
<td>All Pakistan</td>
<td>National Foods</td>
<td>0.70%</td>
<td>0.6%</td>
<td>5.1%</td>
<td>90.2%</td>
<td>120</td>
<td>0.35</td>
<td>0.3%</td>
<td>Failed  min 3M ATVR in Aug 2017 (0.6% vs 1%); No additional security needed: 48 security count, 46 GE count - Failed min 3M ATVR (0.3% vs 1%) in the AIR, deleted in Nov AIR</td>
</tr>
</tbody>
</table>
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.

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