MSCI ACWI IMI Genomic Innovation Index

April 2020
1 Introduction 3

2 Constructing the Index 4
   2.1 The set of relevant words and phrases used for constituent selection 4
   2.2 Company level data used for assessing company exposure 4
   2.3 Eligible universe 5
   2.4 Selected business segments 5
   2.5 SIC code selection 5
   2.6 Calculating the stock relevance score 6
   2.7 Selected universe 6
   2.8 Weighting scheme 7

3 Maintaining the Index 8
   3.1 Semi-Annual Index Review 8
   3.2 Annual Index Review 8
   3.3 Ongoing event-related maintenance 8

Appendix 1: Constructing the Parent Index 10
1 Introduction

The MSCI ACWI IMI Genomic Innovation Index (the ‘Index’), developed in collaboration with ARK Invest, aims to represent the performance of a set of companies that are expected to derive significant revenues, based on the underlying index methodology criteria, from the development of new products and services in the field of genomic sequencing, synthesis, analysis or instrumentation, enabling bio computing, bioinformatics, molecular diagnostics and agricultural biotechnology.
2 Constructing the Index

The index is constructed by selecting stocks from a ‘Parent Index’\(^1\) based on rules explained in the following sections.

The index selects companies which are assessed to have high exposure to business activities such as –

- Gene Editing
- Agricultural Biology
- Molecular Diagnostics
- Genome related hardware for analytics and diagnostics
- Bio-Informatics
- Targeted Therapeutics
- Gene Therapy
- Stem Cell Therapy

ARK Invest provides expert input, information and insight that is consultative in nature and is utilized by MSCI at its sole discretion.

2.1 The set of relevant words and phrases used for constituent selection

MSCI uses a broad set of relevant words and phrases derived from the index objective that describe companies which could benefit development of new products and services in the field of genomic sequencing, synthesis, analysis or instrumentation, enable bio computing, bioinformatics, molecular diagnostics and agricultural biotechnology.

2.2 Company level data used for assessing company exposure

The following data is used at the company level:

- Business segment information from company annual reports and vendor data sources: business segment names, assigned SIC codes\(^2\) and related revenue.

---

\(^1\) Please refer to Appendix 1 for the methodology of the Parent Index. Use of some indexes as Parent Indexes may result in a low number of constituents, which may affect replicability.
• English language summary description of the company's business activities from public sources is used.

2.3 Eligible universe

All stocks from the Parent Index which satisfy any of the following criteria are selected for the eligible universe.

2.3.1 Selection on business segments

Company identified business segment names are compared against the set of relevant words. Companies from the Parent Index which include at least one relevant word in their business segment names are included in the eligible universe.

2.3.2 Selection on company’s summary description

The company’s summary business description is compared against the set of relevant words. Companies from the Parent Index which include at least two distinct relevant words in their summary description are included in the eligible universe.

2.4 Selected business segments

‘Selected business segments’ are business segments which include at least one relevant word. These are the business segments based on which stocks are selected in section 2.3.1.

2.5 SIC code selection

Company business segments are mapped to an SIC code. The SIC code selection is a set of all the SIC codes which satisfy the following criteria

• The SIC code is mapped to at least one of the ‘selected business segments’ as described in section 2.4.

• The SIC code is assigned to the business segments of at least two different stocks from the eligible universe. SIC code 9999 is not selected.

---

² Company’s business segments are assigned with a specific SIC (Standard Industry Classification) description for products and services, used by official agencies within the US government. These descriptions provide additional information on the nature of the segment.
2.6 Calculating the stock relevance score

A relevance score for all stocks in the eligible universe is calculated. The relevance score for a company is calculated by taking into account the portion of company’s revenue which is derived from the selected business segments (as described in section 2.4) filtered via the SIC code selection (as described in section 2.5).

Some companies at a very early stage of development of new products and services in the field of genomics may not declare any revenue from their businesses. These companies would be assigned zero relevance score in absence of any declared revenue. In order to reflect the economic linkage via a non-zero relevance score for such companies, the relevance score calculation takes into account the portion of company’s asset in place of revenue which may be tied to the selected business segments (as described in section 2.4) filtered via the SIC code selection (as described in section 2.5).

2.6.1 Relevance score discount factor

A stock level relevance score discount factor is calculated by normalizing the cumulative frequency of relevant words in the company’s summary description relative to all companies selected on summary business descriptions as described in section 2.3.2.

At company’s business segment level, the revenue discount factor is applied on revenue from a ‘selected SIC code’. The revenue discount factor is 1 for revenue derived from ‘selected business segment’.

2.6.2 Relevance score

Relevance score for stocks in the eligible universe is calculated as follows:

Relevance score = [revenue from the selected business segments (as described in section 2.4) + relevance score discount factor * revenue from the selected SIC code (as described in section 2.5)] / Total company revenue.

In accordance with section 2.6, for companies which do not declare any revenue the relevance score is calculated as follows:

Relevance score = [assets from the selected business segments (as described in section 2.4) + relevance score discount factor * assets from the selected SIC code (as described in section 2.5)] / Total company assets.

2.7 Selected universe

Stocks in the eligible universe that have a relevance score of 25% or more are included in the selected universe.
2.8 Weighting scheme

Stocks included in the index are weighted by the product of relevance score and their float adjusted market capitalization. The weights are then normalized to 100%. Additionally, constituent weights are capped at the issuer level to mitigate concentration risk in the Index. The issuer weight in the Index is capped at 5%.
3 Maintaining the Index

3.1 Semi-Annual Index Review

The index is reviewed on a Semi-Annual basis in May and November to coincide with the May and November Semi-Annual Index Reviews of the Parent Index, and the changes are implemented at the end of May and November. In general, the pro forma index is announced nine business days before the effective date.

During the Semi-Annual Index Review, the eligible universe and selected universe are updated.

In general, MSCI uses the company business segment names, business description and revenue data as of the rebalancing date for the Semi-Annual Index Review.

3.2 Annual Index Review

The set of relevant words (as described in section 2.1) are reviewed by MSCI during the May Semi-Annual Index Review.

3.3 Ongoing event-related maintenance

The general treatment of corporate events in the index aims to minimize turnover outside of Index Reviews. The methodology aims to appropriately represent an investor’s participation in an event based on relevant deal terms and pre-event weighting of the index constituents that are involved. Further, changes in index market capitalization that occur as a result of corporate event implementation will be offset by a corresponding change in the Variable Weighting Factor (VWF) of the constituent.

The following section briefly describes the treatment of common corporate events within the index.

No new securities will be added (except where noted below) to the index between Index Reviews. Parent Index deletions will be reflected simultaneously.
<table>
<thead>
<tr>
<th>EVENT TYPE</th>
<th>EVENT DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>New additions to the Parent Index</td>
<td>A new security added to the parent index (such as IPO and other early inclusions) will not be added to the index.</td>
</tr>
<tr>
<td>Spin-Offs</td>
<td>All securities created as a result of the spin-off of an existing Index constituent will be added to the Index at the time of event implementation if the spin-off security is also added to the Parent Index. Reevaluation for continued inclusion in the Index will occur at the subsequent Index Review.</td>
</tr>
<tr>
<td>Merger/Acquisition</td>
<td>For Mergers and Acquisitions, the acquirer’s post event weight will account for the proportionate amount of shares involved in deal consideration, while cash proceeds will be invested across the Index. If an existing Index constituent is acquired by a non-Index constituent, the existing constituent will be deleted from the Index and the acquiring non-constituent will not be added to the Index.</td>
</tr>
<tr>
<td>Changes in Security Characteristics</td>
<td>A security will continue to be an Index constituent if there are changes in characteristics (country, sector, size segment, etc.) Reevaluation for continued inclusion in the Index will occur at the subsequent Index Review.</td>
</tr>
</tbody>
</table>

Further detail and illustration regarding specific treatment of corporate events relevant to this Index can be found in the MSCI Corporate Events Methodology.

The MSCI Corporate Events methodology book is available at: [https://www.msci.com/index-methodology](https://www.msci.com/index-methodology).
Appendix 1: Constructing the Parent Index

Eligible Universe

The index is constructed from an eligible universe which is a composite of:

- **ACWI IMI Universe:**
  ACWI IMI universe is constructed by selecting all equity securities in MSCI ACWI IMI universe constructed according to the MSCI ACWI IMI Investable Market Index (IMI) constructed according to the MSCI Global Investable Market Indexes Methodology

- **Extended Universe:**
  Extended universe is constructed by selecting all equity securities that are listed on eligible US exchanges\(^3\) according to the MSCI Global Investable Market Indexes Methodology and meet the following eligibility criteria:

### Eligibility criteria

<table>
<thead>
<tr>
<th></th>
<th>New Constituents</th>
<th>Existing Constituents</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Full Market Capitalization</strong></td>
<td>US IMI Market Size-Segment Cutoff(^4)</td>
<td>US IMI Market Size-Segment Cutoff</td>
<td>Company Level</td>
</tr>
<tr>
<td><strong>Free Float Adjusted Market Capitalization</strong></td>
<td>50% of IMI Market Size-Segment Cutoff</td>
<td>50% of IMI Market Size-Segment Cutoff</td>
<td>Security Level</td>
</tr>
<tr>
<td><strong>3M or 1M ATVR</strong></td>
<td>30%</td>
<td>10%</td>
<td>Security Level</td>
</tr>
<tr>
<td><strong>3M or 1M FoT</strong></td>
<td>100%</td>
<td>95%</td>
<td>Security Level</td>
</tr>
<tr>
<td><strong>Foreign Inclusion Factor</strong></td>
<td>&gt;= 0.15, except if FIF adjusted market capitalization &gt;= 2 times the FIF adjusted market capitalization cut-off</td>
<td></td>
<td>Security Level</td>
</tr>
</tbody>
</table>

Further all preferred share classes of US listed securities are deleted from the Extended universe.

---

\(^3\) Need list of reference

\(^4\) For a description of the US IMI Market Size-Segment Cutoff, please refer to the MSCI Global Investable Market Indexes Methodology.
Selected Universe
The selected universe is constructed by combining all securities in the ACWI IMI universe and the Extended universe. For every issuer in the selected universe, the local listed security (listed outside US) is deleted in favor of the US listed security of the same issuer.

Weighting Scheme
All securities included in the Parent Index are weighted in proportion of their free float-adjusted market capitalization.

Date of Data Used for Semi-Annual Index Review
The data cutoff dates for Semi-Annual Index Reviews are:

- Market capitalization, prices and FIF Cutoff Date: nine business days before the end of February, May, August and November.
- ATVRs and Frequency of Trading Cutoff Date: the last business day of March for the May SAIR and the last business day of September for the November SAIR.

Semi-Annual Index Reviews
The Parent Index is reviewed on a Semi-Annual basis in May and November to coincide with the May and November Semi-Annual Index Reviews of the Parent Index, and the changes are implemented at the end of May and November. In general, the pro forma index is announced nine business days before the effective date. During the Semi-Annual Index Review, the eligible universe and selected universe are updated and securities under prolonged suspension are deleted from the Parent Index following 50 business days of continuous suspension.

Quarterly Index Reviews
Additions to and deletions from the MSCI ACWI IMI index as part of the February and August Quarterly Index Review (SAIR) of the MSCI Global Investable Market Indexes are simultaneously reflected in the Parent Index. During the Quarterly Index Review, securities under prolonged suspension are deleted from the Parent Index following 50 business days of continuous suspension.

Ongoing Event Related Changes
The following section briefly describes the treatment of common corporate events for the constituents of the Parent Index which are also part of the Extended universe.
The constituents of the Parent Index which are also constituents of the MSCI ACWI IMI index will follow the same corporate event treatment as the standard MSCI Country and World IMI indexes as per the MSCI GIMI Methodology.

No new securities will be added (except the securities added to the MSCI ACWI IMI index) to the Parent Index between Index Reviews.
Contact us
clientservice@msci.com

AMERICAS
Atlanta 1 888 588 4567 *
Boston + 1 617 532 0920
Chicago + 1 312 675 0545
Monterrey + 52 81 1253 4020
New York + 1 212 804 3901
San Francisco + 1 415 836 8800
São Paulo + 55 11 3706 1360
Toronto + 1 416 628 1007

EUROPE, MIDDLE EAST & AFRICA
Cape Town + 27 21 673 0100
Frankfurt + 49 69 133 859 00
Geneva + 41 22 817 9777
London + 44 20 7618 2222
Milan + 39 02 5849 0415
Paris 0800 91 59 17 *

ASIA PACIFIC
China North 10800 852 1032 *
China South 10800 152 1032 *
Hong Kong + 852 2844 9333
Mumbai + 91 22 6784 9160
Seoul 00798 8521 3392 *
Singapore 800 852 3749 *
Sydney + 61 2 9033 9333
Taipei 008 0112 7513 *
Thailand 0018 0015 6207 7181 *
Tokyo + 81 3 5290 1555

* = toll free

ABOUT MSCI
MSCI is a leader provider of critical decision support tools and services for the global investment community. With over 45 years of expertise in research, data and technology, we power better investment decisions by enabling clients to understand and analyze key drivers of risk and return and confidently build more effective portfolios. We create industry-leading research-enhanced solutions that clients use to gain insight into and improve transparency across the investment process.

To learn more, please visit 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 redisseminated 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 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 be 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 LLC 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 LLC 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 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. MIFID2/MIFIR notice: MSCI ESG Research LLC does not distribute or act as an intermediary for financial instruments or structured deposits, nor does it deal on its own account, provide execution services for others or manage client accounts. No MSCI ESG Research product or service supports, promotes or is intended to support or promote any such activity. MSCI ESG Research is an independent provider of ESG data, reports and ratings based on published methodologies and available to clients on a subscription basis. We do not provide custom or one-off ratings or recommendations of securities or other financial instruments upon request.

Privacy notice: For information about how MSCI ESG Research LLC collects and uses personal data concerning officers and directors, please refer to our Privacy Notice at https://www.msci.com/privacy-pledge.